Oakland County, Michigan
Cooperating Technical Partners
Mapping Activity Statement

Statement 2003-02 Countywide Floodplain Re-delineation

In accordance with the Cooperating Technical Partners (CTP) Memorandum of Agreement dated September 17, 2002 between Oakland County, MI and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement 2003-02 is as follows:

1. Statement Objective:

1.1 Objective

The objective of this Mapping Activity for Oakland County, MI is two-fold:

1) To assist in FEMA's objective of countywide redelineation of floodplains and preliminary DFIRM production for Oakland County. The Oakland County Department of Information Technology will serve as the liaison between FEMA (and its agents/contractors) and Oakland County departments, Cities, Villages and Townships (CVTs). It will assist in collecting local level GIS data, engineering studies and provide feedback to FEMA regarding the development of DFIRMs. In addition, the Oakland County Department of Information Technology will share GIS data necessary for DFIRM production. It will coordinate the local quality control and assurance of the preliminary DFIRMs. In some cases, maintenance on the DFIRMs resulting from the local quality control will be performed. The Department will also help in the creation of additional data necessary for DFIRM production.
2) To assess the need for new engineering (hydraulic and hydrologic) studies in the County. This effort can facilitate the acceptance of DFIRMs and will be a resource for other jurisdictions throughout the country.

For the purposes of statement, the Oakland County Department of Information Technology will be the Mapping Partner and will act as project manager.

2.0 Mapping Activities: Activity 1 – Project Coordination, Outreach and Data Creation for Oakland County DFIRM Production

The following sections describe the specific mapping activities associated with this mapping project. The activity description identifies the responsible mapping partners, the scope and task descriptions, the standards that must be met, and resultant map component.

2.1 Responsible Entity: Oakland County Department of Information Technology

2.2 Scope and Task Descriptions:

In order to meet the objectives discussed above, this mapping activity is divided into many tasks and subtasks. Detailed description of all the tasks and subtasks, the deliverables and resource needs for each task are identified below.

2.2.1 Task 1, Project Coordination and Outreach to Support Countywide DFIRM Production:

This task involves overall coordination of the countywide floodplain redelineation project undertaken by FEMA (through their contractors) with local Oakland County Cities, Villages and Townships. By providing a single point of contact to FEMA for information collection and dissemination, this task aims to streamline the overall redelineation efforts for the County. It also promotes widespread acceptance from local agencies for the new DFIRMs, hence reducing conflicts in the process of issuance of the preliminary DFIRMs.

2.2.1.1 Subtask 1.1: Project coordination and outreach
This task will involve coordinating the collection of engineering/H&H studies and other local level data from various sources such as:

- Oakland County departments
- Oakland County cities, villages, and townships (CVTs)
- State of Michigan departments

Various stakeholders will be informed about the status of the countywide redelineation project through regular meetings facilitated by Oakland County Department of Information Technology as well as regular mailings. The Department will host an Internet site where stakeholders can retrieve a repository of documents and information about the project and track the progress of countywide redelineation. Outreach to agencies will inform local agencies about the floodplain delineation process, deliverables, timelines, milestones and project updates.

Deliverable: Meeting agendas and minutes, Internet site with project information and tools to track the project status, and project support to CVTs and FEMA contractors as needed.

Resource: This subtask will be completed by a GIS Project Manager, an asset of the Oakland County Department of Information Technology, and is expected to take about 10 hrs per month for a duration of 12 months (a total of 120 hrs). This subtask shall be fully funded by FEMA.

2.2.1.2 Subtask 1.2: Local QA/QC of preliminary DFIRMs
In addition to coordinating the provision of data and engineering studies to FEMA and its contractors, Oakland County Department of Information Technology will proactively involve local communities in the QA/QC of preliminary DFIRMs as they are completed. The data will be provided to the relevant local authorities for review. Consistent review criteria and procedures will be created for CVTs to check the redelineated floodplain data and provide feedback to FEMA in a consistent manner. Resolution on outstanding issues will be achieved through meetings and discussions between the local agencies and FEMA

(and its agents). Oakland County Department of Information Technology will maintain the DFIRMs by making changes resulting from local QA/QC.

Deliverable: Report on errors and issues by community, resolution of errors, and delineation of changes on the DFIRMs as a result of resolution of issues.

Resource: A GIS Project Manager and a GIS User Support Specialist, both assets of the Oakland County Department of Information Technology, will accomplish this subtask. There are 61 local CVTs in Oakland County. It is anticipated that an average of 10 hours per CVT will be needed to accomplish this subtask, divided between the GIS Project Manager and the GIS User Support Specialist. Hence a total of 610 hrs is programmed into this subtask. This subtask will involve travel expenses as well. An estimated 50 trips is budgeted over the course of the project with an average of 50 miles per roundtrip. This subtask shall be fully funded by FEMA.

2.2.2 Task 2, Data Creation for DFIRM Production

This task will involve the creation of various datasets that will support the DFIRM production process. Oakland County Department of Information Technology has various local GIS data that can assist in the creation of many datasets. By automating such datasets, the accuracy of the floodplain redelineation and maintenance of the DFIRMs is significantly improved and expedited.

2.2.2.1 Subtask 2.1: Creation of spatially enabled LOMCs

Oakland County Department of Information Technology will research and locate all the Letters of Map Changes (LOMCs) that have been recorded by FEMA. Letters of map changes often do not carry addresses that can be used to create a spatial dataset. Sometimes description of the property location is available which specifies subdivision name and a lot number. Oakland County has automated its parcel data and other related datasets such as boundaries of subdivisions and condominiums. Through the use of such local data and in conjunction with local agencies, approximately 1100 LOMCs will be spatially enabled. This is an important step in the redelineation and DFIRM production effort.

Deliverable: Location of all LOMCs in a standard GIS format. All the LOMCs will be located as a point feature at the centroid of the tax parcel they represent.

Resource: This subtask will be accomplished by a GIS User Support Specialist and is anticipated to take 100 hrs. This subtask shall be fully funded by FEMA.

2.2.2.2 Subtask 2.2: Creation of spatially enabled repetitive loss claims

Oakland County Department of Information Technology will research and locate all repetitive loss claims data maintained by FEMA. Once such data is spatially enabled, it will help identify where flooding problems have occurred consistently over time so that appropriate mitigation strategies can be adopted and changes in floodplain delineation can be affected if necessary.

Deliverable: Location of repetitive loss claims in a standard GIS format. All repetitive loss claims will be located as a point feature at the centroid of the tax parcel they represent.

Resource: A GIS User Support Specialist will accomplish this subtask. A sample database has not been made available for proper assessment of the resource requirement. Hence a not to exceed amount of 150 hrs is allocated for this subtask. Oakland County Department of Information Technology matching funds will fully fund this subtask.

Subtask 2.2.2.3: Additional GPS of structures (bridges/culverts, etc)
Information on structures such as bridges and culverts may be needed by FEMA for countywide redelineation. A reliable dataset for these features along with the required attributes is currently not available. Hence Oakland County Department of Information Technology will collect such data on an as needed basis. The Department will make site visits to identified structure and use its GPS equipment to capture the spatial location of the structure, digital cameras to capture images of the structure and will obtain attributes necessary in the redelineation.

Deliverable: Improved bridge and culvert data necessary in countywide redelineation.

Resource: This subtask will be performed on an as needed basis. Therefore a not to exceed amount of 100 hrs is allocated to this subtask and will be assigned to a GIS User Support Specialist. Travel costs for an estimated 20 trips are budgeted over the course of the project with an average of 50 miles per roundtrip. The cost for this subtask will be funded by FEMA.

2.2.3 Task 3, Research and Reports

This task involves the documentation of redelineation results that could be shared with all stakeholders who are interested in, and responsible for, floodplain management.

2.2.3.1 Subtask 3.1: Analysis of Future Needs
Once the DFIRMs are created, one can integrate it with other GIS data and analyze the change in floodplains due to the redelineation effort. It will also help illustrate areas that need engineering restudies so that more holistic improvements can be made in the future to the floodplain redelineation process.

Deliverable: Report on future needs will be made available to FEMA and will be distributed throughout the County and to other stakeholders.

Resource: This subtask will be completed by a GIS Project Manager and is estimated to take 60 hrs. Oakland County matching funds will be used to fully fund this subtask.

Subtask 2.2.3.2: Impacts of Redelineation

The redelineation effort will result in significant changes to those in floodplains (currently vs. in the future). In other words, on the one hand a lot of properties that were in a floodplain before redelineation will no longer be in the floodplains due to the new redelineation. On the other hand, some properties that were never in the floodplain will now be part of the floodplain. All of this results in changes in risk patterns and potential financial impact to the citizens of the County. The impacts of redelineation (both qualitative and quantitative) will be assessed, documented and made available to FEMA for publication. Information on the impacts of redelineation will be useful for all stakeholders nationwide.

Deliverable: A report on the impacts of redelineation will be provided to FEMA for informing future use of resources.

Resource: All work for this subtask will be performed by the GIS Project Manager and is estimated at 100 hrs. This task will be fully funded by Oakland County funds.

Standards: All work conducted under this Activity shall conform to the standards specified in Section 6 of this Mapping Activity Statement.

Products: Upon completion of project, Oakland County Department of Information Technology will provide all documents (reports, datasets, meeting agendas, and minutes) to FEMA along with additional data that is created. At the end of this process, the Department will be fully prepared to maintain DFIRMs in the County.

3.0 Technical and Administrative Support Data Submittal: Oakland County Department of Information Technology, MI shall comply with the following data submittal requirements:

- All supporting documentation for the activities in this Mapping Activity Statement shall be submitted in accordance with Appendix M, Section M.2.1 of the *Guidelines and Specifications for Flood Hazard Mapping Partners*, prepared by FEMA, dated February 2002. The following table indicates the sections of the TSDN that apply to each activity.

3.1 TSDN—Applicable Sections

Section of TSDN	Activities
	1
General Documentation	
Special Problem Reports	4
Telephone Conversation Reports	4
Meeting Minutes/Reports	4
General Correspondence	4
Engineering Analyses	
Hydrologic and Hydraulic Analyses	
Draft FIS Report	
Mapping Information	4
Miscellaneous Reference Materials	4

Note: If any issue arises that could affect the completion of an activity within the proposed scope or budget, the party responsible for that activity must complete a Special Problem Report (SPR) immediately and submit it to FEMA. The SPR must describe the issue and propose possible resolutions.

Additionally, Oakland County Department of Information Technology will be responsible for collecting and maintaining a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

4. **Period of Performance:**
The period of performance will be October 2003 through September 2004.

5. **Project Cost - Funding/Cost-Sharing:**

5.1 Project Cost

Task #:	Subtask #/ Description	Resource	Time	FEMA	OC	Cost ($)
Task 1, DFIRM Project Coordination and Outreach to Support Oakland County DFIRM Production:	Subtask 1.1: Project Coordination and Outreach	GIS Project Manager	120 hrs			
	Subtask 1.2: Local QA/QC of Preliminary DFIRMs	GIS Project Manager User Support Specialist	305 hrs + 305 hrs = 610 hrs			
Task 2, Data Creation to Support DFIRM Production	Subtask 2.1: Creation of spatially-enabled LOMCs	User Support Specialist	100 hrs			
	Subtask 2.2: Creation of spatially enable repetitive loss claims	User Support Specialist	150 hrs			
	Subtask 2.3: Additional GPS of structures (bridges/culverts, etc)	User Support Specialist	100 hrs			
Task 3, Research and Reports	Subtask 3.1: Analysis of Future Needs	GIS Project Manager	60 hrs			
	Subtask 3.2: Impacts of Redelineation	GIS Project Manager	100 hrs			
Travel	(See budget narrative for details)					

Supplies (paper, ink for plotter, office supplies, mailing, etc.)						
Data	**Cost of local data has not been attributed to this project but will be borne by Oakland County and is an intangible match by the County**					
Total						

6. **Standards:** Table 6-1 indicates the standards and documentation relevant to this Mapping Activity Statement. Table 6-2 shows the applicable sections of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners* for each activity.

Table 6-1 Applicable Standards per Activity

Applicable Standards	Activities
	1
Guidelines and Specifications for Flood Hazard Mapping Partners, February 2002	4
Content Standards for Digital Geospatial Metadata (Federal Geographic Data Committee, 1998)	4

Table 6-2 Mapping Activities and Applicable Sections of Guidelines and Specifications for Flood Hazard Mapping Partners

Task / Subtask Number	Task Description	Applicable Volume, Section/Subsection, and Appendix of Guidelines and Specifications
1.1	Project Coordination and Outreach – DFIRM Production	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.3)
		Appendices K. L, and M
1.2	Local QA/QC of preliminary DFIRMS	Volume 1, Section 1.4 (specifically Subsection 1.4.1, 1.4.2.3 and 1.4.3) and 1.5 (specifically Subsection 1.5.2.1 and 1.5.2.2)
		Appendix C, Sections C.4 and C.6
		Appendices K. L, and M
2	Data Creation for DFIRM Production	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.2)
		Appendices K, L, and M

7. **Schedule and Milestones:**

Task #:	Subtask #/ Description	Start Date	Finish Date
Task 1, DFIRM Project Coordination and Outreach to Support Oakland County DFIRM Production:	Subtask 2.2.1.1: Project Coordination and Outreach	October 2003	September 2004
	Subtask 2.2.1.2: Local QA/QC of Preliminary DFIRMs	November 2003	September 2004
Task 2, Data Creation to Support DFIRM Production	Subtask 2.2.2.1: Creation of spatially enabled LOMCs	October 2003	December 2003
	Subtask 2.2.2.2: Creation of spatially enabled repetitive loss claims	December 2003	February 2004
	Subtask 2.2.2.3: Additional GPS of structures (bridges/culverts, etc)	November 2003	July 2004
Task 3, Research and Reports	Subtask 2.2.3.1: Analysis of Future Needs	July 2004	August 2004
	Subtask 2.2.3.2: Impacts of Redelineation	August 2004	September 2004

8. **Certification:** The following certifications apply to this Mapping Activity Statement :

   The DFIRM metadata files will include a description of the horizontal and vertical accuracy of the DFIRM base map and floodplain information. County official or responsible party will provide written certification that the digital data meet FEMA's minimum standards and specifications.

9. **Technical Assistance and Resources:** Oakland County Department of Information Technology will receive copies of FEMA-issued LOMCs (Letter of Map Changes), archived engineering backup data, and data collected as part of the Mapping Needs Assessment Process from the MCC. The MCC may be contacted at 1-877 FEMA MAP (1-877-336-2627). General technical and programmatic information, such as FEMA 265, the Quick-2 computer program, and the MT-2 forms, can be downloaded from FEMA's Flood Hazard Mapping website (www.fema.gov./mit/tsd/). Specific technical and programmatic support should be coordinated with the FEMA Regional Project Officer. Assistance for this MAS may be available from FEMA's MCC or the Study Contractor. Should assistance from FEMA's MCC be deemed necessary, such assistance should be requested through the FEMA MCC Project Officer.

   Oakland County Department of Information Technology may also consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or sub-contractors, and GIS-based engineering and modeling training.

10. **Contractors:** Oakland County, MI will ensure that procurement of subcontractors as part of this Mapping Activity Statement complies with the requirements of 44 CFR 13.36.

11. **Financial Reporting:** Financial reporting requirements will be in accordance with Cooperative Agreement Articles V & VI.

12. **Points of Contact:** Oakland County's CTP Project Manager is Sudha Maheshwari, GIS Project Manager, or subsequent personnel appointed to fulfill this responsibility. The FEMA contacts are: Ken Hinterlong, Project Officer, and Mary Jo Mullen, Technical Monitor.

Each party has caused this Mapping Activity Statement to be executed by its duly authorized representative.

Oakland County Board Chairman
Oakland County, MI

9/29/03
Date

Terry Reuss Fell
Federal Emergency Management Agency

9-18-03
Date